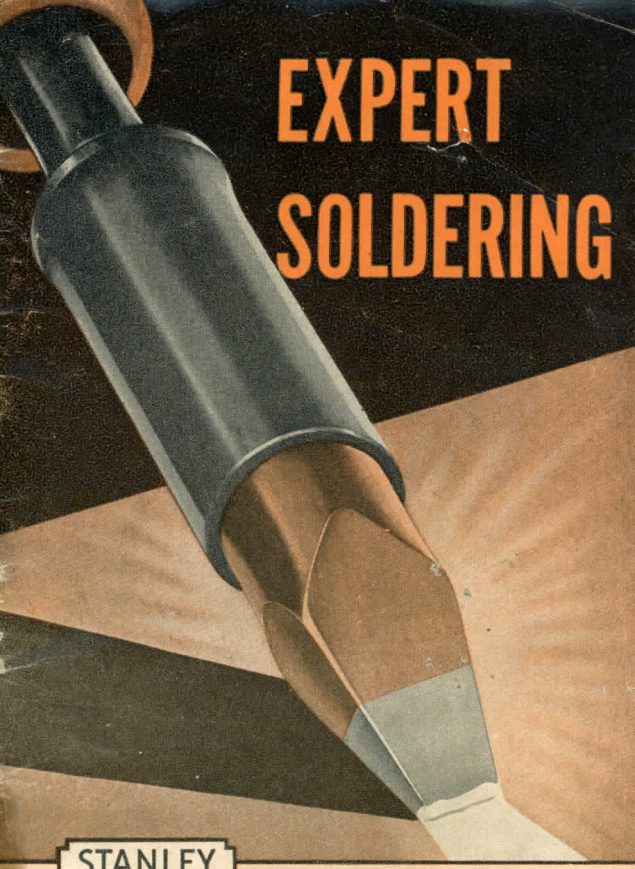
EXPERT SOLDERING



STANLEY

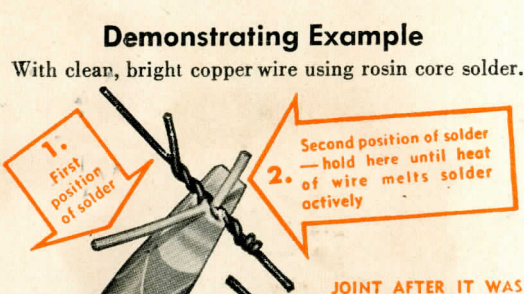
HEAT does the Soldering

IN every true soldered joint: (1) the surfaces joined must be "tinned" — coated with solder or pure tin, fused and chemically alloyed onto clean metal surfaces; and (2) the joint completed with solder, "sweated in" and combined with those "tinned" surfaces.

It is essential to the making of a perfect soldered joint *that the metals be raised to the temperature at which they will alloy* with the solder used.

Demonstrating Example

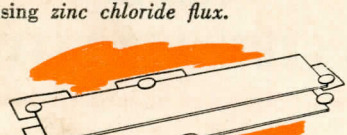
With clean, bright copper wire using rosin core solder.



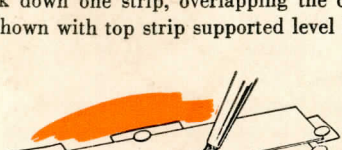
1. Each end joint wrapped tightly before soldering.
2. Tinned fully heated soldering iron.
3. Lay wires flat on iron for maximum area of heat conducting contact.
4. Feed solder first at junction of wires to aid conduction of heat.

Demonstrating Example

With 1″ x 6″ strips of thin, *clean*, bright sheet copper using *zinc chloride flux*.



1. Tack down one strip, overlapping the other half way as shown with top strip supported level by folded paper.

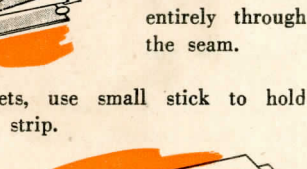


2. Apply flux with small brush at edge of seam and on overlap.

3. Apply ample heat on the overlap to "sweat" the flux and solder entirely through the seam.

4. While solder sets, use small stick to hold soldered part of top strip.

5. Remove soldered strips from board and invert them.



TINNED and UNTINNED METALS

Tinned Metals — certain metals are purposely "tinned" for soldering: "hot tinned" steel, copper and brass sheets, strips, electrical wires and terminals. Sometimes cadmium plating is used as a substitute for tinning.

Untinned Metals — should be prepared for easy soldering by a separate "tinning" operation. This group of metals includes: untinned copper, brass, German silver, zinc, lead, nickel, nickel plated parts, galvanized iron, wrought and cast iron, steel, stainless steel, and aluminum.

FLUXES

Soldering flux is a necessary cleaning agent. It permits the molten solder to alloy onto hot *fluxed* surfaces and into seams — making the whole joint into a solid metallic union.

FLUX IS AVAILABLE:

(a) as a separate material to be applied before the solder.

(b) as a core in the center of hollow wire solder — called *Flux-Core Solder.*

The two principally used fluxes are Rosin Flux and Zinc Chloride Flux.

Rosin Flux — is non-corrosive and non-conductive. It is best for tinned metals, clean and bright copper, electrical connections, radios, telephones and other fine instruments, tin ware, copper, and lead.

Rosin Flux — comes in lump form — may be used powdered — or dissolved in alcohol. It is also available as the center of "Rosin Core" Solder.

Zinc Chloride Flux — is more powerful than rosin and more generally used. It is an acid flux — muriatic acid saturated with pure zinc. Like all acid fluxes Zinc Chloride has definite corrosive and electrically conductive qualities. It is commonly used on *untinned* copper, brass, bronze, German silver, zinc, monel metal, nickel plated parts, and steel.

Must be washed off after soldering if danger of future corrosion is to be avoided.

Other Acid Fluxes

Paste Flux — is usually a vaseline-type ZINC CHLORIDE FLUX.

Should be wiped off after soldering.

Soldering Salts — a crystalline form of ZINC CHLORIDE FLUX to be dissolved in water.

Should be washed off after soldering.

Muriatic Acid — used full strength on galvanized (zinc coated) iron and steel, where it affects the zinc more than would zinc saturated acid. If allowed time to act before soldering, it will eat the zinc off the iron or steel permitting direct soldering.

On cast iron and stainless steel, MURIATIC ACID will produce good adhesion — but it seems to be a fact that none of the ferrous metals alloy as firmly with solder as do the non-ferrous metals.

Must be washed off after soldering if danger of future corrosion is to be avoided.

Stainless Steel Flux — is a special flux developed for use on stainless steel. It is sold by stainless steel suppliers under various trade names.

Should be promptly washed off with soap and water, preferably 10% washing soda in it.

Aluminum Flux — there are several special aluminum fluxes on the market. Some are called "All-Metal Fluxes." If properly heated these will successfully flux solder onto aluminum and produce a real alloyed bond. In the presence of *moisture* or *salt air*, however, solder and aluminum sometimes set up an *electrolytic action* that may gradually disintegrate the solder.

Unless ALUMINUM FLUX is washed off, it will attack the metal.

Sal Ammoniac — is sometimes suggested as a flux. But it is extremely corrosive. Avoid its use, if you can, except in block form for retinning soldering tips.

NOTE: *Only experience will teach you how to select the proper kind and strength of flux for the various metals. But never use a stronger flux than necessary. When you have determined the kind and condition of the metals, always try to use the mildest and weakest flux that will do a first-rate soldering job.*

All acid fluxes should be carefully kept from every part of the soldering iron and tip except the tinned working surfaces.

COMMON (soft) SOLDER

This folder applies to "ordinary soft soldering" (below red heat range) — not to "hard soldering" (at red heat).

Common Solder — available in bars, strips, and wire, is an alloy of tin and lead. Research has proved that an alloy of 40% tin and 60% lead makes an excellent solder at reasonable cost. This proportion is now in general use although some people prefer "guaranteed ½ and ½" or even 60% tin and 40% lead when very free flowing is required. But whatever proportions you use, insist on good quality solder — free from impurities.

Flux Core Solder either with a "rosin-flux" or an "acid-flux" core, is a convenient combination of flux and solder in wire form which makes the use of a separate flux unnecessary.

Aluminum Solder — special solders for Aluminum are on the market for use with the various Aluminum Fluxes.

TINNING of TIPS

The heat delivered by the Tip does the soldering. *So keep the Tip "tinned".* Don't run the risk of burning off the thin sheathing which protects the copper body of the Tip. Unless the Tip is kept "tinned" — coated with solder or pure tin — a non-conducting crust will form that prevents the flow of heat to the work.

TINNING of TIPS

There are two different kinds of Tips: *Plain Copper* and the new *Armor Clad Copper Tip* which is sheathed with an easily tinned metal many times more durable than copper. Both should be kept constantly "tinned"—but *note these important differences between the tinning methods used on Plain Copper and Armor Clad Copper Tips.*

How to "Tin" Plain Copper Tips

1. Flow fresh flux and solder on the working surfaces frequently while soldering.
2. Scrape all dull spots down to clear copper as soon as they appear and retin with flux and solder.
3. Whenever the tinning has been allowed to burn off or whenever the Tip is worn out of shape, file the Tip down to clear copper and retin with flux and solder.
4. *File Tips—do not forge.* Forging damages bevel and thread of Screw Type Tips and heater.

How to "Tin" Armor Clad Tips

1. Flow fresh flux and solder on the working surfaces frequently while soldering.
2. Freshen all dull spots with flux and solder as soon as they appear—*scrape lightly* if necessary.
3. To protect sheathing from oxidation never wipe coating of solder off working surface without replacing it with fresh flux and solder at once.
4. *Do not file or forge Armor Clad Copper Tips.* They do not need it. Either filing or forging ruins the thin protective sheathing and exposes the heat conducting copper body to quick destruction.

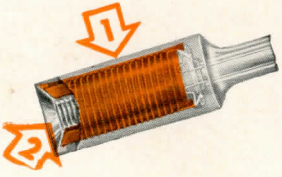
Use An ELECTRIC SOLDERING IRON

For only the electric iron can deliver and maintain the *continuous* flow of sufficient heat (usually 650° F. to 750° F., depending on character of work being soldered) which is essential for reliable, high-speed soldering. You can set an *electric soldering iron* up any place — in factory or home. No need to be dependent upon heavy torches that are hard to carry around or soldering irons that cool off quickly when you're in the middle of a job.

What to Look For in an Electric Soldering Iron

Heating Element

Not all *electric soldering irons* are alike, of course. First thing for you to check is the Heating Element. This contains the mica insulated winding that develops the heat — the heavy core by which heat is conducted—through the Valve-Seat Fit socket to the soldering tip.



Heating Head on one of the best-type Electric Soldering Irons. Note (1) chamber which encloses nickel alloy resistance winding; (2) Accurately machined Valve-Seat Fit Socket.

What to Look For . . .

High-Powered Winding

Next find out if the heat conducting core is properly wound. Only a properly wound iron will maintain the high temperatures necessary for continuous soldering.

Valve-Seat Fit Socket

Then check the socket between the heat conducting core and the Tip. Unless this is machined with extreme accuracy, the Tip cannot be screwed tightly into position—nor will heat flow efficiently from Heating Head to Tip and thus to the work. For best results the bevels on both heat conducting core and Copper Tip ought to be most carefully machined to insure a real Valve-Seat Fit when the Tip is screwed into place.

Circuit Voltage

Always make sure the Electric Soldering Iron corresponds with the circuit voltage. Irons rated 110-120 volts operate on circuit voltage 110, 115 or 120.

Experts Use STANLEY Electric Soldering Irons

Here's Why . . .

1. *Heating head* protects the "built-in" windings and core from flux fumes and moisture.
2. *Heat conducting core is properly wound.* Only a properly wound iron will stand up under the high temperatures necessary for reliable soldering at good speed.

3. *Heating Head Socket is a Valve-Seat Fit connection*—machined with extreme accuracy to provide quick, reliable heat conduction between Heating Head and soldering Tip. This Valve-Seat Fit Socket also protects the enclosed connecting surfaces from oxidation and flux corrosion.

4. *Compressed pure copper Tips* are as accurately machined as the Heating Head Socket with which they make a Valve-Seat Fit connection.

5. *Screw Tip Irons have solid metal cores.*

6. *The new STANLEY Armor Clad Copper Tips,* thinly sheathed with an easily tinned metal many times more durable than copper, are now available in place of Plain Copper Tips. One Armor Clad Copper Tip will outlast several Plain Copper Tips.

7. *Handles are made of selected hardwood* — cool, comfortable, strong and removable.

8. *Six feet of Underwriters' Approved Heater Cord* — light, strong, and flexible. Where the cord enters handle, it is provided with a "relief" that prevents strain and fraying.

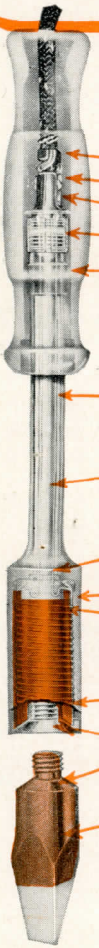
9. *STANLEY Electric Soldering Irons are light,* correctly balanced, and of convenient shape.

10. *They operate with highest speed,* efficiency, and economy.

11. *A metal tool resting stand* is furnished with each Iron.

12. Approved by Underwriters' Laboratories.

How a STANLEY Electric So



1. Cord strain relief
2. Convenient terminals
3. Soldered joints
4. Handle lock nut
5. Cool, ventilated handle — rigid when tightened.
6. Cool lead wires — perfectly insulated.
7. Stamped voltage capacity
8. Welded joints
9. High-powered winding
10. Heat conducting core insulated with special mica.
11. Solidly brazed end
12. Bevels machined to make Valve-Seat Fit when Tip is screwed tightly into socket. Protects enclosed surfaces.
13. Replaceable, compressed Pure Copper Tip — both screw and plug type. For advantages of new STANLEY Armor Clad Tip see Page 16.

ldering Iron is Constructed

For Those Who Want the Best

THE cut on the opposite page shows thirteen construction details — thirteen good reasons why those who want the best buy a Stanley Electric Soldering Iron. Heat is developed by the winding (9) — conducted by the heavy core (10) through the Valve-Seat Fit connection of Heating Element and Pure Copper Tip (12) — to the Soldering Tip (13) — and delivered by its brightly tinned soldering surface to the work itself. Each Stanley Electric Soldering Iron consists of four replaceable parts — Soldering Tip; Heating Head; cool, removable Handle; and six feet of Underwriters' Approved heater cord with a rubber attachment plug. When maintained and used correctly, Stanley Electric Soldering Irons will develop and deliver ample soldering heat.

Stanley Electric Soldering Irons are the result of years of research, engineering and exacting tests by men who qualify as soldering iron experts. The high quality materials, the careful workmanship and the fair dealing that have built good will for Stanley Tools since 1850 are behind Stanley Electric Soldering Irons.

Selecting the right STANL

What Type and Size?

There are two types of Stanley Electric Soldering Irons: Screw Tip or Plug Tip.

There are eight different sizes in the Screw Tip type: from 62 watts with a 7/16" Tip to 475 watts with a 1⅜" Tip.

Four different sizes in the Plug Tip type: from 105 watts with a ⅜" Tip to 350 watts with a ⅞" Tip.

On page 22 for Screw Tip Irons and page 24 for Plug Tip Irons you will find the class of soldering to which each size of Stanley Iron is adapted.

The Right Iron for the Job

If you want an Iron that can be used on many different kinds of work — in the laboratory, around the home, for building maintenance jobs — you will find it easy to select a size that can handle such a range of soldering jobs. But be sure to pick one that is heavy enough for the biggest jobs and small enough for the tight places. On light jobs you may disconnect this "heavy" Iron momentarily *whenever it overheats.*

No. 340 (see page 22) and No. 355 (page 24) have remarkable power and broad range for small Irons. No. 320 (page 22) is made for very light work. Nos. 330 (page 22) and 345 (page 24) are made for light medium jobs. All five may be used in fairly tight places.

Voltage Governs Heating Power

As the drawing shows, the wattage and voltage of every Stanley Electric Soldering Iron is stamped clearly on the Stem of the Iron. The Irons are wound to develop this wattage when operated at the medium of the stamped voltage.

EY Electric Soldering Iron

With a rise or fall of 5% in circuit voltage the operating wattage of an Iron will rise or fall approximately 10%. If an iron doesn't perform as expected, the first step should be to check the voltage on your circuit with a volt meter. Your local public utility will be glad to do this.

Accurate Industrial Application

On industrial production jobs the soldering work will be more efficient if the size, voltage, and working power of the Iron is accurately adapted to the job in hand. If three or four different Irons have the necessary capacity rating, it is always wise to select the tool that is easiest to handle.

If you have any difficulty selecting the correct size and type of Soldering Iron for industrial production jobs, a Stanley Engineer will be glad to help you find the best solution for your problem.

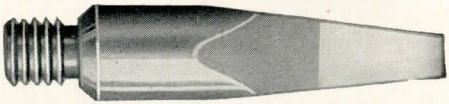
Temperature Regulations

If the Soldering Iron is accurately selected for the job—if it is correctly used by the operator—you will not ordinarily need temperature regulating devices. On some jobs, however, a variable heat control is desirable. When this is true, you may introduce a rheostat into the line of a Stanley Electric Soldering Iron — and thereby regulate the input to the point where the Iron performs its work without overheating.

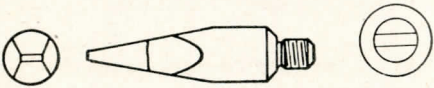
STANLEY ARMOR CLAD COPPER

for All STANLEY Elec

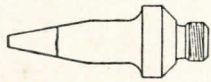
Screw Tip and

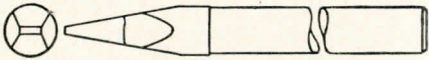


Armor Clad Tip. Screw type.



Some of the many shaped Tips offered for both Screw Tip and Plug Tip Irons.





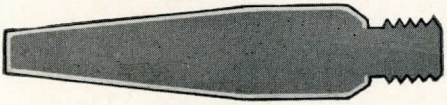
Stanley Armor Clad Copper Tips A Great Improvement

BECAUSE industry needed a Soldering Tip that would last longer than Plain Copper Tips — that would, therefore, be more economical in the long run — STANLEY developed its new Armor Clad Copper Tip. And it has proved to be a great industrial time-saver.

TIPS and PLAIN COPPER TIPS

tric Soldering Irons

Plug Tip Types



Cross sectional view showing Protective Armor Clad.

The Stanley Armor Clad Tip is essentially a regular all-copper tip with a relatively thin sheath bonded to the surface of the copper which eliminates excessive wear, oxidation, pitting, and amalgamation of the copper with solder at soldering temperatures.

The life of Armor Clad Tips is reported by industrial users to be from three to ten times greater than all-copper tips, depending on the amount of mechanical wear or friction involved.

Armored Tips retain their original shape for their entire length of life, filing being unnecessary. They are readily retinned with the use of a good flux and solder. Filing Armored Tips to alter their shape (or for any reason) will ruin the armor and leave only a common "all-copper tip."

The special metal sheath makes no noticeable difference in the transmission of the full heat of the iron.

Armor Clad Tips are made for Stanley Screw Tip and Plug Tip Irons with various point sizes. These Tips are used extensively in production soldering because they do not require frequent dressing for

reconditioning or replacement, and they greatly outlast all-copper tips.

Plain Copper Tips

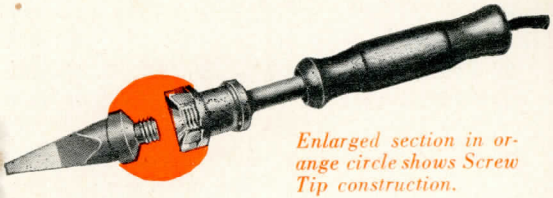
Stanley Plain Copper Tips are made from pure compressed high conductivity copper. All Screw Tips are accurately machined for a Valve-Seat Fit Connection with the Heating Head. This careful machining assures effective heat conduction and protects the enclosed metal connecting surfaces from oxidation and flux corrosion.

Prior to retinning, the copper should be brightened — and filed, if necessary — so that the new tinning will adhere properly to the Tip. Although Plain Copper Tips may be filed to suit the operator, they may not be forged without serious damage to the bevel of the Tip — which will, in turn, damage the carefully machined bevel of the Heating Head.

SCREW TIP and PLUG TIP IRONS

STANLEY Electric Soldering Irons are made in two types: Screw Tip and Plug Tip. Both types are available with Armor Clad Copper or Plain Copper Tips.

The Stanley Screw Tip Iron



Enlarged section in orange circle shows Screw Tip construction.

The Screw Tip has a threaded Stud and an accurately beveled shoulder. The stud screws well up into the Heating Head — draws the beveled shoulder of the Tip up tightly against the beveled socket of the Heating Head. Both Tip shoulder and Heating Head socket are carefully machined to make a Valve-Seat Fit connection.

How to Install A Screw Tip

Use only accurately machined Stanley Screw Tips. Make sure the Socket thread is clear. Retap it if necessary. Also see that the bevel is clean and smooth.

Clamp the Tip in a vise. Then screw the Iron firmly onto the Tip—using one hand on the Heating Head, the other on the Handle. *Never use a wrench, vise, or pliers on the Heating Head.*

Care of Stanley Screw Tips

Keep Tip screwed tightly into the Heating Head. For a loose connection means poor heat conduction.

Keep Tip constantly "tinned."

How to Remove A Screw Tip

1. Hold the *cooled* Heating Head in your left hand close to the Tip.

2. Strike the Tip with a wooden stick or hammer handle — give the Iron a quarter turn after each blow.
3. Repeat this action until the Tip loosens. If threads bind, feed oil around the seat.
4. Clamp the Tip between *copper protected* vise jaws. Then unscrew the Heating Head cautiously — turning it back and forth and using plenty of oil until the threads have worked themselves clean.
5. *Never clamp the Heating Head in a vise.* You may crush the shell and ruin the winding.
6. Don't hold the Iron by the handle or stem when loosening the Tip.

The Stanley Plug Tip Iron

Enlarged section in orange circle shows how Plug Tip fits into Heating Head.

The Plug Tip fits into the bore of the Heating Head. There is sufficient clearance to prevent "sticking." A set screw holds it firmly and securely in the Heating Head.

How to Install A Plug Tip

For a perfect fit use only Stanley Plug Tips. Make sure the set screw is loose. Push tip well up into the Heating Head and tighten the set screw. To be certain that the Tip is held securely, tighten the set screw again when Iron is hot.

Care of Stanley Plug Tips

Keep the set screw firmly tightened so that the Tip won't wobble or fall out of the Heating Head.

Keep Tip constantly "tinned."

Remove the Plug Tip frequently. Clean both Plug Tip and its socket often to prevent "sticking." Daily cleaning is recommended for Irons that are heated continuously.

How to Remove A Plug Tip

Usually a Plug Tip can be pulled out easily after the set screw is loosened. But if it comes out hard, do this:

1. Clamp the Tip in a vise. After loosening the set screw, work the Heating Head off the Tip with a cautious twisting motion — or drive it off carefully.
2. If this is not successful, take the Tip out of the vise. Heat Iron on circuit for about two minutes — feeding penetrating oil into socket.
3. When cold, clamp the Tip into a vise again. Then work or drive the Heating Head off carefully.

STANLEY ELECTRIC

SCREW

ECONOMICAL · CORRECTLY BALANCED ·

No. 320
62 Watts

No. 330
80 Watts

No. 340
115 Watts

No. 350
165 Watts

STANLEY SCREW TIP TYPE . . . . . .

No.	Watts	Equal to Old Style Copper	Tip Dia. Inches	Weight Less Cord	Overall Length Inches
320	62	½ lb.	7/16	8½ oz.	12½
330	80	1 lb.	½	10½ oz.	12¾
340	115	1½ lbs.	9/16	13 oz.	13
350	165	2 lbs.	⅞	18 oz.	13¼
360	215	2½ lbs.	1	22 oz.	13½
370	270	3 lbs.	1⅛	27 oz.	14
380	375	4 lbs.	1⅜	38 oz.	14
390	475	5 lbs.	1 9/16	49 oz.	14¼

HANDLES FOR ALL IRONS.....$0.80 EACH
CORD AND PLUG FOR ALL IRONS.... .90 EACH

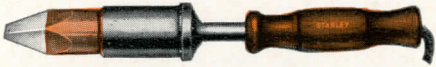
SOLDERING IRONS

TIP TYPE

FAST • DEPENDABLE • PRODUCTION TOOLS

No. 360
215 Watts

No. 370
270 Watts



No. 380
375 Watts

No 390
475 Watts

PRECISION BUILT OF QUALITY MATERIALS

A FEW OF THE USES	Price Complete Iron	Prices for Complete Replaceable Parts	
		Copper Tip	Heating Head
Very light radio, telephone, electric appliance and fine instrument making and repairing, and for home use.	$7.80	$0.50	$6.30
Medium soldering on telephones, radios, electrical appliances, toys, etc. Medium iron for servicemen.	8.00	.60	6.40
Fast soldering on radios, telephones, electrical appliances, jewelry, etc. For light medium jobs in home, factory and schools. Ideal for servicemen.	8.70	.65	7.10
High speed soldering on radios, telephones. Medium light soldering on tinware, toy motors, type bars, fuses, etc., tinsmithing, plumbing and wiring.	9.80	1.20	7.80
High speed soldering on light tinware, art glass, toys, small metal patterns, organ pipes, etc.	11.40	1.50	9.25
Medium tinware, light roofing, gutters, ventilating flues; electrical, airplane and other medium manufacturing; ship repairs.	13.20	2.70	10.65
Roofing, refrigerators, copper and galvanized iron, heavy tinware, metal patterns, ship, auto and airplane building.	15.40	3.20	12.20
Heavy roofing and cornices, vats, tanks, ventilating flues, auto radiators, armature, plumbing and shipbuilding.	17.90	3.20	13.95

OPERATE ON A.C. OR D.C.
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

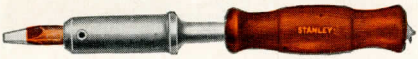
STANLEY ELECTRIC

PLUG

ECONOMICAL · CORRECTLY BALANCED ·

No. 345
105 Watts

No. 355
150 Watts



STANLEY PLUG TIP TYPE . . . . . .

The construction of these Irons is similar to that of the Screw Tip Iron shown in phantom view on page 12 — except that a full-length copper Plug Tip

No.	Watts	Equal to Old Style Copper	Tip Dia. Inches	Weight Less Cord	Overall Length Inches
345	105	1½ lbs.	⅜	12¾ oz.	13
355	150	2 lbs.	½	15¼ oz.	13⅛
365	200	2½ lbs.	⅝	1⅛ lbs.	13¼
385	350	4 lbs.	⅞	1¾ lbs.	13⅜

HANDLES FOR ALL IRONS.....$0.80 EACH
CORD AND PLUG FOR ALL IRONS.... .90 EACH

SOLDERING IRONS

TIP TYPE

FAST · DEPENDABLE · PRODUCTION TOOLS

No. 365
200 Watts

No. 385
350 Watts

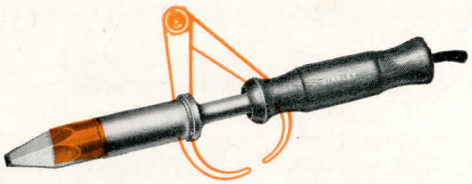
PRECISION BUILT OF QUALITY MATERIALS

replaces the Screw Tip there shown. This Plug Tip is adjustable and replaceable — is securely held in position by a set screw.

A FEW OF THE USES	Price Complete Iron	Prices for Complete Replaceable Parts	
		Copper Tip	Heating Head
Light radio, telephone and electrical appliances, fine instrument making and repairs. Also for servicemen and for miscellaneous light soldering around home, school, hotel.	$8.20	$0.50	$6.70
Medium soldering on radio, telephone, typewriters and electrical appliances, wiring, fuses, toys, jewelry. For servicemen and for general light use.	8.60	.60	7.00
High speed radio, telephone, electric appliances, motors, wiring, small metal patterns, art glass and maintenance on airplane, automobile and ship.	10.40	1.40	8.50
Powerful and rugged Iron for heavier work, refrigerators, motors, gutters and leaders, ventilating flues, metal patterns, plumbing, and on automobile, airplane, shipbuilding and general maintenance.	12.00	1.80	9.80

OPERATE ON A.C. OR D.C.
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

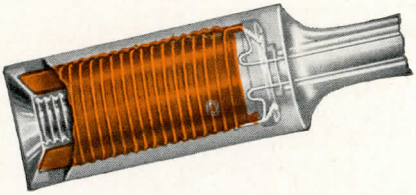
Care of the STANLEY



A Fine Tool Deserves Fine Treatment

Your Stanley Electric Soldering Iron is one of the finest tools made. So give it the treatment a precision tool deserves. Be careful about rough handling, oxidation, burnt "tinning," loose Tips — about overheating and excessive voltages. Then you'll get all the benefits of efficient soldering that have been built into this Iron.

Heating Element



The Stanley Heating Element is *built in and sealed in the Heating Head*—to protect it from flux fumes, and moisture. So long as it is not abused, this Heating Head will deliver a dependable flow of heat through the Copper Tip to the soldering work.

Electric Soldering Iron

Constructed for continuous production soldering in industry, the Stanley Heating Element is built to endure hard, practical service. But if it should be damaged by carelessness—or should eventually wear out — you may replace it with another Stanley Heating Head at a nominal cost. In buying production tools such as a Soldering Iron, it is, indeed, vital that you make sure that the important parts are interchangeable and replaceable.

Unused Working Heat

Don't leave your Stanley Electric Soldering Iron *idle* on the circuit for long periods of time. Unused working heat will overheat the Iron very quickly. May damage or even ruin the winding which develops the heat. May also burn the tinning off the Copper Tip. It's a lot less expensive to disconnect when you're called off the job than to return to a burned out Iron.

Do not throw down, crack, cut, dent, bend or crush the steel shell and stem. This is the important *sealed* sheath of the Iron.

Don't Let Iron Overheat

Experience will tell you when the Iron is developing more heat than you are using up. You can control this by turning off the current for a moment or so. You may also work off excess temperatures by soldering faster. On jobs where the heat has to be controlled precisely, you may even want to introduce a rheostat into the line.

Keep Tip Screwed in Tight

Screw Tips should be kept firmly tightened, to protect Bevel of Heating Head and Tip from oxidation and to provide good heat conducting connection between them.

Set Screws of Plug Tip Irons should be firmly tightened, to keep Tips in proper position and prevent their actually falling out.

Irons should not be kept heated without Tips properly installed, as windings will be under excess strain and contact surfaces harmed by such exposure while hot.

Watch Excessive Voltages

The voltage of every Stanley Electric Soldering Iron is clearly marked on the stem of the Iron. Do not submit the Iron to circuit voltages that exceed its stamped capacity.

Cord and Plug

Avoid unnecessary damage to Cord by kinking, yanking, twisting, or dragging. Do not bend Plug Prongs out of shape. Always be sure you have a good connection between Cord and circuit plug. Make sure that the electric outlet is in good condition — for a poor contact in the electric outlet may cause you to believe that a perfect Iron is faulty.

Keep the flexible Cord rigidly fitted to the terminal insulator. This will relieve the strain on the Cord's fine copper strands.

How to Repair Cord at the Terminals

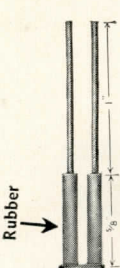


Fig. 1
Preparation

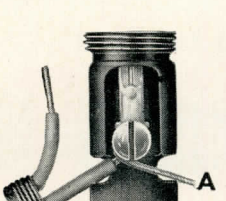


Fig. 2
First Side

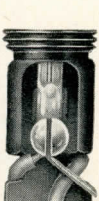


Fig. 3
Opposite
Side

1. Unscrew binding screws until they come to a stop, without forcing them out. Remove cord. DO NOT forget to keep handle on cord.

2. Cut off worn part of cord and repair end as in Fig. 1. Rebind securely. Either re-use wire ring or bind with thread. Twist each conductor tightly, using care not to cut any copper strands.

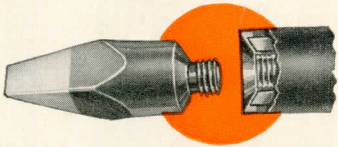
3. Carefully clamp heating head stem with one terminal screw upward.

4. Keep rubber just clear of the terminal and draw one conductor tightly around screw counter clockwise (Fig. 2). Hold end of conductor (A) firmly with pliers and turn screw down tightly against conductor. Do not use force enough to strip threads. Cut off end of conductor (A) close to screw head.

5. Turn iron over. Draw cord with some tension on the fastened conductor into slot, up and over terminal insulator so that fastened conductor lies firmly in slot and cord centers on end of terminal insulator. (See Fig. 3)

6. Hold cord from slipping and draw second conductor under terminal insulator end and up through second slot continuing conductor around second screw counter clockwise. Hold end, tighten screw, and cut off as before.

Valve-Seat Fit Socket



To provide the steady, efficient flow of heat necessary for soldering, the Valve-Seat Fit Socket is machined with extreme accuracy for a perfect contact with the Tip. This socket requires the best of care for it receives the highest temperature of any external part of the Iron. So keep the socket free from flux.

Cool, Removable Handle

Turn the Handle to left to loosen — to the right to tighten. Unscrew the Handle completely to remove it from the Iron. Be sure to keep the Handle firmly tightened. Do not let the hot Iron stand with the Handle straight up. For heat will rise in around the stem and char the Handle.

Flux Corrosion and Oxidation

To protect beveled sockets of Heating Head and Tip from Oxidation, always keep Tip well tightened.

Never let flux get on untinned portion of Tip, the beveled Tip seat, or the shell of the Heating Element. Keep the Iron wiped off with a clean cloth moistened with heavy oil — this will help resist and remove both flux and oxide.

We have given considerable information in this folder about the proper care of Stanley Irons. To *emphasize this further*, please note the following illustrations of Stanley Irons that have come back to us for repair. These show how Stanley Irons can be ruined from *lack of care* or misuse.

Misused Heating Head

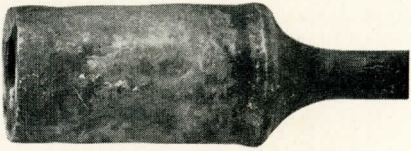
Heating Head battered by rough handling. Appearance indicates that Heating Head was gripped with pliers, pipe wrench or placed in a vise to get the tip off.

Corrective Measure

Do not strike the Heating Head or clamp it in a vise as you may collapse the shell and ruin the winding. If you experience difficulty in removing tip, clamp tip between copper protected vise jaws and twist head cautiously, turning back and forth, using plenty of oil, until tip has worked clear.

Common Abuses and

Misused Heating Head



In attempt to remove tip, this Heating Head was also badly battered.

Corrective Measure

Remove tip each day and clean out recess with brush; or coat end of Heating Head around tip with Sauereisen Cement No. 7 before putting Iron in service. Cement will dry and seal the recess around tip preventing corrosion.

Effects of Strong Soldering Flux

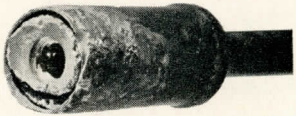
Tip and Heating Head ruined by too liberal use of flux.

Corrective Measure

Don't dip Iron in flux. Apply flux only to tinned portion of tip, wipe excess flux from Heating Head or Tip.

How To AVOID Them

Effects of Strong Soldering Flux



This illustration shows how excess flux can eat into the heating head and ruin it.

Corrective Measure

Keep flux off Heating Head. Apply flux only to tinned portion of tip. Protect Iron from corrosion by wiping Heating Head with oily rag after use, or at regular intervals.

Failure to Replace Tip

This tip was used so long that it was worn down to the Heating Head. It cannot be removed now and consequently the whole Iron is ruined beyond repair.

Corrective Measure

Replace tips when worn down to one-half original size.

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STANLEY

Distributors are not authorized to adjust complaints, make repairs, or replacements. If this Iron fails to operate and you can find no defect in the cord, return it to us at the factory, charges prepaid, giving the name of distributor from whom you bought it. If our inspection shows that the Iron has not been abused and our instructions for use have been followed, and that it is defective due to faulty material or workmanship, it will be repaired or replaced by us.

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This catalog No. 34 illustrates and describes Stanley tools for woodworking and metal working. It tells how they are made and gives valuable pointers on how to use them correctly. A catalog you will enjoy reading, send for a copy.

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